

## REMARKS

Claims 1-6, 9, and 11-18 are pending in the application. Claims 7, 8 and 10 have been cancelled, and claims 1-3, 5, 6, 9 and 11 have been amended. No new matter is introduced hereby.

### Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 1-18 have been rejected as indefinite. Applicant respectfully traverses some of the rejections, and accepts some of the rejections, as set forth below.

In particular, claims 1, 2, 5, 6 and 11 have been rejected for reciting “solvates,” “polymorphys,” and “metabolites” of the claimed compounds. These terms have been removed from claims 1, 2, 5, 6, and 11, rendering the rejection moot.

Further, claims 1, 5 and 11 have been rejected for reciting “hydrocarbon group.” Applicants traverse the rejection, respectfully submitting that the entire limitation, namely “C<sub>1</sub>-C<sub>15</sub> saturated or unsaturated aliphatic hydrocarbon groups” is quite clear to those of ordinary skill in the art, and as such certainly does not “embrace the entire textbook of organic chemistry.” “Hydrocarbon groups,” specifically “C<sub>1</sub>-C<sub>15</sub> saturated or unsaturated aliphatic hydrocarbon groups” are well understood by those of ordinary skill to include substituents consisting of a straight or branched carbon chain or ring or combinations thereof, having double bonds or not, with hydrogen atoms. That is what hydrocarbon groups, in the context of the claim, means to the person of ordinary skill in the art. There is no need to refer to a definition in the text, as the ordinary meaning of this term is not susceptible to an unclear scope. Although the Examiner suggests replacing the term with methyl, Applicants submit that this is unduly restrictive of allowed invention in this art, and is an attempt to limit the invention to its working examples. Applicants respectfully request the Examiner to reconsider and withdraw this aspect of the rejection.

Further, claim 15 has been rejected for reciting a temperature range of “from about 0-140°C.” Again, the Examiner suggests that this claim be deleted for this reason,

a far-overreaching attempt at overcoming the rejection. The Examiner also points to the working examples to justify a position that the limitation is not supported by the specification. In fact, on page 10, lines 9-12, this limitation is explicitly supported. The Examiner is urged to reconsider and withdraw the rejection on this basis.

Claims 5, 6 and 9 have been rejected for being drawn to all respiratory, urinary and gastrointestinal diseases mediated by muscarinic receptors. The limitations of claims 7, 8 and 10, respectively, have been inserted into the rejected claims. Applicants submit that the rejection has been mooted thereby.

Rejections Under 35 U.S.C. §103 (a) Over Itho et al. (EP 108 986 A1), in view of Sagara et al. (J. Med. Chem., 2002, 45, 984-987) and Takeuchi et al. (EP 801 067 B1)

Claims 1-10 have been rejected as obvious over Itho et al., in view of Sagara et al. or Takeuchi et al. Applicants respectfully traverse the rejections as set forth below.

The compounds of the present claims generally comprise a benzopyran-4-one ring with an 8-position linkage to a 3,6-disubstituted azabicyclo[3.1.0]hexane.

Itho et al. discloses N-substituted flavone-8-carboxamides having an N-substituted cyclic group or a disubstituted amino group. However, Itho et al. does not disclose or anywhere suggest a 3,6-disubstituted azabicyclo[3.1.0] hexane, much less a heterobicyclic group. Rather, Itho et al. discloses various disubstituted amino groups and cyclic amino groups, specifically 1-azabicyclohexane instead of a quinuclidine group.

Sagara et al. discloses esters of 3-methylflavone-8-carboxylic acid. Sagara et al. specifically discloses such compounds having an N-attached and 2-substituted piperidinyl group. Sagara et al. does not disclose or anywhere suggest any other N-containing group.

Takeuchi et al. discloses quinuclidine derivatives or quaternary salts thereof having MRA activity. Such quinuclidine derivatives also contain either a 1,2,3,4-tetrahydroisoquinolinyll or isoindolinyll group. Takeuchi et al. does not disclose or anywhere suggest compounds having a benzopyran-4-one instead of the 1,2,3,4-tetrahydroisoquinolinyll or isoindolinyll groups, nor does Takeuchi et al. disclose or

anywhere suggest compounds having a [3.1.0] azabicyclohexane instead of the quinuclidine group.

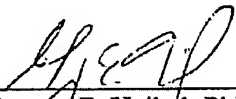
Itho et al., Sagara et al. and Takeuchi et al., either individually or in any combination, do not render obvious the present invention. None of the references disclose or anywhere suggest a 3,6-disubstituted azabicyclo[3.1.0] hexane group that is present in the compounds of the currently pending claims. Indeed, these cited references only disclose monocyclic N-containing groups, and do not disclose or anywhere suggest any bicyclic N-containing groups. Further, Takeuchi et al. discloses only a quinuclidine group and there is no disclosure or suggestion anywhere that this group can be modified to a [3.1.0] azabicyclohexane, or that a skilled artisan would even have reasonable expectation of success that a [3.1.0]azabicyclohexane would exhibit the same type of activity, or comparable activity as the quinuclidine derivatives of Takeuchi et al. Ineed there are significant structural differences between the compounds disclosed in Itho et al., Sagara et al., and Takeuchi et al. and the presently claimed compounds, making it very difficult for the skilled artisan to be able to predict the activity of the claimed compounds in light of the disclosure and teachings of the cited references.

In view of the above, the Examiner has not established a prima facie case of obviousness. The cited references do not show any motivation to modify the references in such a way as to arrive at the presently claimed compounds. Even assuming, *arguendo*, that a skilled artisan could have arrived at the [3.1.0] azabicyclohexane compounds in view of the cited references, this skilled artisan would not have had any reasonable expectation of success that such compounds would have had the same or comparable activity as the compounds disclosed in Itho et al., Sagara et al., or Takeuchi et al. Finally, the cited references do not teach or suggest all the claim limitations of the present invention. Accordingly, obviousness has not been shown, and the present claims should be allowed. The Examiner is respectfully requested to reconsider and withdraw the present rejections under 35 U.S.C. §103(a).

### CONCLUSION

Applicants respectfully submit that the pending claims are allowable, and request a Notice of Allowance at this time. Authorization is hereby given to charge any fees deemed to be due in connection with this Response to Deposit Account No. 50-0912.

Respectfully submitted,  
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